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TITLE:

TREATMENT OF PHOSPHATE ION-CONTAINING WATER

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ABSTRACT:

PURPOSE: To keep the removal capacity of phosphate constant in low cost over a long period of time, by subjecting phosphate-containing waste water to pH-adjustment while passing the treated water through a granular MgO packing bed.

CONSTITUTION: The pH of phosphate ion-containing water such as tap water, sewerage or factory waste water is adjusted to 8.5 and the treated water is passed through a filter bed packed with granular MgO as a precipitation seed crystal. In this case, a minute amount of MgO is eluted from the filter bed

and the surface of MgO is activated while the dissolved Mg-ion is coupled with the phosphate ion to form an  $\text{Mg}_3(\text{PO}_4)_2$  crystal.

This  $\text{Mg}_3(\text{PO}_4)_2$  is preferentially precipitated on the surface of activated MgO. Because this method does not require Ca-addition, high phosphorus removal treatment can be performed at low chemicals expense.

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